

WHAT IS CLAIMED IS:

1. A method for preparing a tube end for a welding operation, comprising the steps of:
 - 5 utilizing a rotary milling tool having a first milling head to remove a predetermined amount of radial thickness from the outer diameter of said tube to a predetermined depth; and beveling the end of said tube utilizing said rotary milling tool.
- 10 2. A method according to claim 1, further including the step of removing a membrane adjacent said tube end, or a weld overlay adjacent said tube end, or a combination thereof to a predetermined depth.
- 15 3. A method according to claim 1, further including the step of removing a weld overlay from a front portion or a back portion of said tube, or a combination thereof, with said first milling head to a predetermined depth either simultaneously with or after said tube radial thickness removal step.
- 20 4. A method according to claim 1, wherein from about 2% up to about 25% of said tube radial thickness is removed during said tube diameter removal step, and wherein said tube diameter removal step is performed to a depth of from about 0.25 to about 1.5 inches when measured from said tube end.
- 25 5. A method according to claim 3, wherein from about 2% up to about 25% of said tube radial thickness is removed during said tube diameter removal step, and wherein said tube diameter removal step is performed to a depth of from about 0.25 to about 1.5 inches when measured from said tube end.

6. A method according to claim 4, wherein up to about 10% of said tube radial thickness is removed, and wherein said depth is from about 0.25 to about 1 inch.
- 5 7. A method according to claim 5, wherein up to about 10% of said tube radial thickness is removed, and wherein said depth is from about 0.25 to about 1 inch.
- 10 8. A method according to claim 2, wherein said beveling step is performed with a second milling head and said membrane removal is performed with a third milling head.
- 15 9. A method according to claim 8, wherein up to about 25% of said tube radial thickness is removed during said tube diameter removal step, and wherein said tube diameter removal step is performed to a depth of from about 0.25 to about 1.5 inches when measured from said tube end.
10. A rotary milling head for a rotary milling tool, comprising:
- 20 a cylindrical body having an annular recess, said body adapted to be connected to a rotary milling tool;
- 25 one or more cutting blades connected to said body by a securing element, each said blade disposed circumferentially around the rotational axis of the milling head, each said blade having a cutting edge defining an annular cutting sweep having an inner radius which is adapted to remove an outer radial thickness from an annular tube in an amount of from about 2% up to about 25% of said annular tube thickness, and an outer radius at least equal to said tube outer diameter.
- 30 11. A milling head according to claim 10, wherein said blade has a face surface with a bore extending therethrough through which said securing element connects said blade to said body, said

blade having a countersink around said bore capable of receiving at least a portion of a head of said securing element.

12. A milling head according to claim 11, wherein said securing
5 element connects said blade to said body whereby the securing element head portion has an end which is flush mounted or recess mounted in relation to said blade face.

13. A milling head according to claim 11, wherein said securing
10 element connects said blade to said body whereby the securing element has a head portion which extends out from said blade face surface a first distance which is less than or equal to a second distance measured from a lower edge of the securing element head to a lower cutting edge of the blade.

15 14. A milling head according to claim 12, wherein said blade cutting sweep inner radius is from about 2% to about 15% of said annular tube thickness.

20 15. A milling head according to claim 13, wherein said blade cutting sweep inner radius is from about 2% to about 15% of said annular tube thickness.

25 16. A milling head according to claim 12, wherein said blade cutting sweep inner radius is from about 2% to about 10% of said annular tube thickness.

30 17. A milling head according to claim 13, wherein said blade cutting sweep inner radius is from about 2% to about 10% of said annular tube thickness.

18. A milling head according to claim 14, wherein said first distance is less than about 95% of said second distance.

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19. A milling head according to claim 15, wherein said first distance is less than about 90% of said second distance.

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20. A method according to claim 1, wherein said first milling head has a blade secured to said milling head with a securing element, and wherein said securing element has an end portion which extends a first distance which is less than or equal to a second distance measured from a bottom edge of the securing element to a bottom edge of the blade.